Data Sheet

# Cisco ATA 188
## Analog Telephone Adaptor

The Cisco ATA 188 Analog Telephone Adaptor (Figure 1) interfaces regular telephones with IP-based telephony networks (Figure 2). The Cisco Analog Telephone Adaptor products are standards-based communication devices that deliver true, next-generation voice-over-IP (VoIP) terminations to businesses and residences worldwide. These products address the needs of enterprise companies, small-office environments, and the emerging VoIP managed voice services and local services market by helping companies to cost-effectively turn their analog telephones into IP devices. The newest member of the Cisco ATA product family, the Cisco ATA 188, provides added connectivity, features, and ease of administration.

Figure 1
Cisco ATA 188 Analog Telephone Adaptor

## Strengths of the Cisco ATA 188

The Cisco ATA 188 has a number of benefits: Each of the two voice ports on the Cisco ATA 188 (Figure 3) supports independent telephone numbers, giving you two separate lines. In addition, the internal Ethernet switch allows for a direct connection to a 10/100BASE-T Ethernet network via an RJ-45 interface, with single LAN connectivity for both the Cisco ATA 188 and a co-located PC or other Ethernet-based device. The Cisco ATA 188 can also be configured to standards-based VoIP protocols H.323, Session Initiation Protocol (SIP), Media Gateway Control Protocol (MGCP), as well as to Skinny Client Control Protocol (SCCP)—a protocol developed by Cisco Systems.

## Beneficial Features Protect Investment

The Cisco ATA 188 is the ideal solution for Cisco customers deploying IP telephony service to businesses or home offices or alternate-line services. With the Cisco ATA 188, there is no need to purchase additional hubs or switches to co-locate your PC—a switch is built-in, providing two RJ-45 connections. Customers can continue to use their own analog or portable telephones while gaining the advantages of VoIP services. Fax machines are supported because fax pass-through is also available with the Cisco ATA 188. IP connectivity, via broadband pipes through xDSL, fixed wireless, and cable modems to standard analog lines and telephones, is available with the Cisco ATA 188.

By utilizing their existing networks and moving to converged network architectures, businesses and service providers alike can realize a rapid return on investment (ROI) through savings on capital costs and operational and administrative costs.

Figure 2
Cisco ATA 188—Endpoint for an end-to-end broadband system

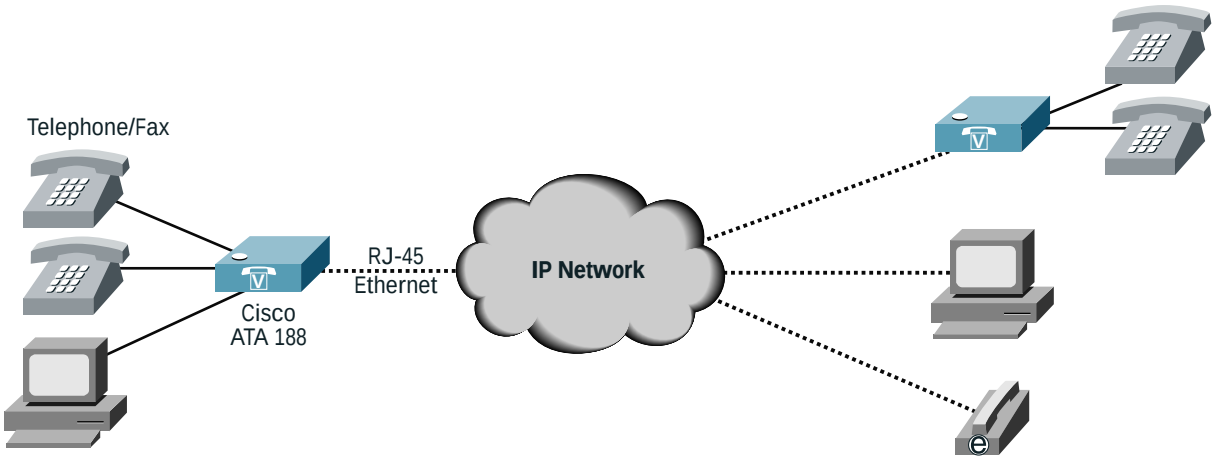
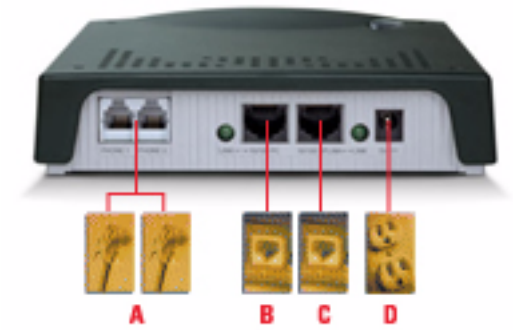


Table 1 Cisco ATA 188 Benefits and Features

| Benefits | Features |
|---|---|
| Interfaces legacy telephones to IP-based networks | Two voice ports support legacy (analog) telephones<br>One RJ-45 connection to 10/100BASE-T Ethernet hub or switch |
| Added functionality | Fax pass-through support<br>Additional RJ-45 connection for co-located PC |
| Flexible configuration and provisioning options | Auto-provisioning with Trivial File Transfer Protocol (TFTP) provisioning servers<br>Automatic assignment of IP address, network route IP, and subnet mask via Dynamic Host Configuration Protocol (DHCP)<br>Web configuration through built-in Web server<br>Touch-tone telephone keypad configuration with voice prompt<br>Administration password to protect system access and configuration<br>Remote network upgrades<br>Separate virtual LAN (VLAN) (802.1Q) for voice packets |
| Clear, natural-sounding voice quality | Advanced preprocessing to optimize full-duplex voice compression<br>High-performance line-echo cancellation eliminates noise and echo<br>Voice activity detection (VAD) and comfort noise generation (CNG) save bandwidth by delivering voice, not silence<br>Dynamic network monitoring to reduce jitter artifacts such as packet loss |
| Supports multiple protocols for interoperability and deployment flexibility | H.323<br>Session Initiation Protocol (SIP)<br>Media Gateway Control Protocol (MGCP)<br>Skinny Client Control Protocol (SCCP)—Cisco CallManager technology |
| Small-size design | Fits in all environments |

## System Requirements

Figure 3
Back view of Cisco ATA 188




A Regular analog telephones

B 10/100BASE-T category-5 cable to access IP network

C Co-located PC (optional)

D Power for AC/DC power adaptor

Software specifications for the Cisco ATA 188 can be found in Table 2 below and physical specifications are outlined in Table 3. See Table 4 for ringing characteristics and Table 5 for regulatory compliance and safety information. Ordering information can be found in Table 6.

Table 2 Cisco ATA 188 Software Specifications

| Category | Specification |
|---|---|
| VoIP protocols | H.323 v2<br>SIP (RFC 2543 bis)<br>MGCP 1.0 (RFC 2705)<br>MGCP 1.0/Network-based Call Signaling (NCS) 1.0 Profile<br>MGCP 0.1<br>SCCP |
| Voice codecs[1] | G.729, G.729A, G.729B, G.729AB[2]<br>G.723.1<br>G.711A<br>G.711 |
| Provisioning and configuration | DHCP (RFC 2131)<br>Web configuration via built-in Web server<br>Touch-tone telephone keypad configuration with voice prompt<br>Basic boot provisioning (RFC 1350 TFTP Profiling)<br>Dial plan provisioning<br>Cisco Discovery Protocol (CDP)<br>VLAN support (802.1Q) |
| Quality of Service | Class-of-service (CoS) bit-tagging (802.1P)<br>Type-of-service (ToS) bit-tagging |
| Security | H.235 for H.323<br>RC4 encryption for TFTP configuration profiles |
| Dual-tone multi-frequency (DTMF) | DTMF tone detection and generation |
| DTMF signaling methods | H.245 out-of-band DTMF for H.323<br>RFC 2833 AVT tones for SIP, MGCP |
| Call progress tones | Configurable for two sets of frequencies and single set of on/off cadence |
| Voice features | VAD (voice activity detection)<br>CNG (comfort noise generation)<br>Dynamic jitter buffer (adaptive) |
| Fax | G.711 fax pass-through[3]<br>G.711 fax mode[3] |

[1] Actual codec support depends upon codec negotiations as defined by signaling protocols used.

[2] In simultaneous dual-port operation, the second port is limited to G.711 when using G.729.

[3] Success of fax transmissions up to 14.4 kbps depends on network conditions and fax modem/fax machine tolerance to those conditions. Network must have reasonably low network jitter, network delay, and packet loss rate.

Table 3 Cisco ATA 188 Physical Specifications

| Category | Specification |
|---|---|
| Dimensions (H x W x D) | 1.5 x 6.5 x 5.75 in. (3.8 x 16.5 x 14.6 cm) |
| Weight | 15 oz (425 gm) |
| **Power** | |
| Power consumption | 3.5 to 7.5 W (idle to peak) |
| DC input voltage | +5.0 VDC at 1.5 A maximum |
| Power adaptor | Universal AC/DC<br>~3.3 x 2.0 x 1.3 in (~8.5 x 5.0 x 3.2 cm)<br>~4.8 oz (135 gm) for the AC-input external power adaptor<br>~4 ft (1.2 m) DC cord<br>~6 ft (1.8 m) cord |
| **Physical interfaces** | |
| Ethernet | Two RJ-45, IEEE 802.3 10/100BASE-T |
| Analog telephone | Two RJ-11 FXS voice ports |
| Power | 5 VDC power connector |
| Indicators | Function button with integrated status indicator<br>Link/activity LEDs indicating network activity |
| Operating temperature | 41 to 104 F (5 to 40 C) |
| Storage temperature | -4 to 140 F (-20 to 60 C) |
| Relative humidity | 10 to 90% non-condensing, operating and non-operating/storage |

Table 4 Cisco ATA 188 Ringing Characteristics

| Category | Specification |
|---|---|
| **Tip/ring interfaces for each RJ-11 FXS port (SLIC)** | |
| Ring voltage | 40 $V_{RMS}$ typical (balanced ringing only) |
| Ring frequency | 25 Hz |
| Ring waveform | Trapezoidal with 1.2 to 1.6 crest factor |
| Maximum ringer load | 1400 ohm + 40 F (per line) |
| Loop impedance | Up to 200 ohm (plus 430 ohm maximum telephone DC resistance) |
| **On-hook/off-hook characteristics** | |
| On-hook voltage (tip/ring) | -50 V (nominal) |
| Off-hook current | 25 mA (minimum) |
| RJ-11 FXS port terminating impedance options | 600 ohm resistive or 270 ohm + 750 ohm // 150 nF complex impedance |

Table 5 Cisco ATA 188 Regulatory Compliance and Safety Information

| Category | Specification |
|---|---|
| Regulatory Standards Compliance | Products bear CE marking indicating compliance with 89/336/EEC and 73/23/EEC directives, which includes below safety and EMC standards |
| Safety | UL 60950<br>CSA-C22.2 No. 60950<br>EN 60950<br>IEC 60950<br>AZ/NZS 3260<br>TS001 |
| EMC | FCC Part 15 (CFR 47) Class B<br>ICES-003 Class B<br>EN55022 Class B<br>CISPR22 Class B<br>AS/NZS 3548 Class B<br>VCCI Class B<br>EN55024<br>EN50082-1<br>EN6000-3-2<br>EN6000-3-3 |

Table 6 Ordering Information

| Part Number | Description |
|---|---|
| **Cisco ATA 188 analog telephone adaptors*** | |
| ATA188-I1 | Cisco ATA 188 2-port adaptor with switch, 600 ohm impedance |
| ATA188-I2 | Cisco ATA 188 2-port adaptor with switch, complex impedance (270 ohm in series with 750 ohm and 150 nF in parallel) |
| **Cisco ATA 188 power supply cables** | |
| ATACAB-NA | ATA power supply cable for North America |
| ATACAB-EU | ATA power supply cable for Continental Europe |
| ATACAB-UK | ATA power supply cable for United Kingdom |
| ATACAB-AU | ATA power supply cable for Australia |
| ATACAB-AR | ATA power supply cable for Argentina |
| ATACAB-JP | ATA power supply cable for Japan |

*Some countries have telephone networks that list multiple impedance requirements. It is important to closely approximate the impedance of the typical handsets used in the region when selecting the proper configuration. The incorrect choice may lead to poor echo cancellation performance.

## Services and Support

Cisco IP Communications services and support reduce the cost, time, and complexity of implementing a converged network, and they can help you create a resilient IP communications infrastructure that will meet your business needs today-and in the future.

Cisco and its partners have designed and deployed some of today's largest IP communications networks-they understand how to integrate an IP communications solution into your network infrastructure, a solution that will help you more quickly realize business results and gain a competitive advantage.

These results are delivered through a flexible suite of collaborative offerings that help you plan, design, implement, operate, and grow an IP communications solution.

Cisco design tools and best practices ensure the solution best fits your business needs from the start, eliminating costly redesigns and downtime. Cisco proven methods ensure a sound implementation that will deliver the functions and features you expect-on time. Support services include remote network operations, network management tools to administer the converged application and network infrastructure, and technical support services.

Cisco provides the flexibility you need to employ a services strategy that meets your specific requirements.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